

Application No.: 09/847901

Docket No.: SIW-008RCE

AMENDMENTS TO THE CLAIMS

Please amend claim 1 and add new claims 6-7, as set forth in the following listing of claims, which will replace all prior versions, and listings, of claims in the present application.

Listing of Claims

1. (Currently Amended) A fuel cell comprising:

a membrane electrode assembly having a solid polymer electrolyte membrane, an anode side diffusion electrode located at one side of the solid polymer electrolyte membrane, and a cathode side diffusion electrode disposed at the other side of the solid polymer electrolyte membrane, the anode side diffusion electrode comprising an anode electrode, and a first gas diffusion layer, the cathode side diffusion electrode comprising a cathode electrode, and a second gas diffusion layer, the anode electrode, which is separate from the first gas diffusion layer, being located closer to the solid polymer electrolyte membrane, the cathode electrode, which is separate from the second gas diffusion layer, being located closer to the solid polymer electrolyte membrane;

a pair of separators which hold the membrane electrode assembly; and

a liquid sealant having viscosity provided on the separators, which hardens while in close contact with both end faces of the first gas diffusion layer and the second gas diffusion layer to provide a seal with a certain degree of elasticity that prevents flowing of a reaction gas from the ends of the first gas diffusion layer and the second gas diffusion layer, wherein

the seal makes contact with both end faces of the first gas diffusion layer and the second gas diffusion layer, while the membrane electrode assembly is located between the separators.

2. (Previously Presented) A fuel cell according to claim 1, further comprising:

a projecting portion which extends from the solid polymer electrolyte membrane and which projects from the peripheries of the anode side diffusion electrode and the cathode side diffusion electrode, wherein

the seal makes contact with the projecting portion.

3. (Canceled)

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4. (Original) A fuel cell according to claim 1, wherein the seal makes contact with end faces of one of the anode electrode and the cathode electrode.

5. (Original) A fuel cell according to claim 1, wherein the seal is provided in grooves formed in the separator.

6. (New) A fuel cell comprising:

a membrane electrode assembly having a solid polymer electrolyte membrane, an anode side diffusion electrode located at one side of the solid polymer electrolyte membrane, and a cathode side diffusion electrode disposed at the other side of the solid polymer electrolyte membrane, the anode side diffusion electrode comprising an anode electrode, and a first gas diffusion layer, the cathode side diffusion electrode comprising a cathode electrode, and a second gas diffusion layer, the anode electrode, which is separate from the first gas diffusion layer, being located closer to the solid polymer electrolyte membrane, the cathode electrode, which is separate from the second gas diffusion layer, being located closer to the solid polymer electrolyte membrane;

a pair of separators which hold the membrane electrode assembly; and

a liquid sealant having viscosity provided in grooves formed in the separators, which hardens while in close contact with at least one end face of one of the first gas diffusion layer and the second gas diffusion layer to provide a seal with a certain degree of elasticity, wherein

the seal makes contact an end face of one of the first gas diffusion layer and the second gas diffusion layer, while the membrane electrode assembly is located between the separators and wherein the seal is provided in grooves formed in the separator.

7. (New) A fuel cell comprising:

a membrane electrode assembly having a solid polymer electrolyte membrane, an anode side diffusion electrode located at one side of the solid polymer electrolyte membrane, and a cathode side diffusion electrode disposed at the other side of the solid polymer electrolyte membrane, the anode side diffusion electrode comprising an anode electrode, and a first gas diffusion layer, the cathode side diffusion electrode comprising a cathode electrode, and a second gas diffusion layer, the anode electrode, which is separate from the first gas diffusion layer, being located closer to the solid polymer electrolyte membrane, the cathode electrode,

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which is separate from the second gas diffusion layer, being located closer to the solid polymer electrolyte membrane;

a projecting portion which extends from the solid polymer electrolyte membrane and which projects from the peripheries of the anode side diffusion electrode and the cathode side diffusion electrode,

a pair of separators which hold the membrane electrode assembly; and

a liquid sealant having viscosity provided on the separators on either side of the projecting portion, which hardens while in close contact with both end faces of the first gas diffusion layer and the second gas diffusion layer to provide a seal with a certain degree of elasticity on both sides of and in contact with the projecting portion, wherein

the seal makes contact with both end faces of the first gas diffusion layer and the second gas diffusion layer, while the membrane electrode assembly is located between the separators.